

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application:

- 1           1.     (Original) A method for detecting molecules, the method comprising:  
2           a)     determining the electronic status of a semi-conductor;  
3           b)     establishing electronic communication between the molecules and  
4 the semiconductor;  
5           c)     subjecting the semi-conductor to energy influx;  
6           d)     redetermining the electronic status of the semi-conductor.

Claims 2-27 (Canceled)

- 1           28.    (Original) A method for manipulating biological material in vivo, the  
2 method comprising:  
3           a)     attaching a semi-conductor to a first biological moiety to create a con-  
4 struct;  
5           b)     inserting the construct into a living organism;  
6           c)     allowing the construct to migrate to the biological material;  
7           d)     creating a plurality of charges on the construct, wherein the size of the  
8 charges and distances between the charges cause the biological material  
9 to change in structure.

- 1           29.    (Original) The method as recited in claim 28 wherein the biological mate-  
2 rial comprises molecules selected from the group consisting of nucleotides, nitrogenous  
3 heterocyclic bases, amino acids, and combinations thereof.

- 1           30.    (Original) The method as recited in claim 28 wherein the charges are

2 created by subjecting the construct to radiation.

1 31. (Original) The method as recited in claim 30 wherein the radiation has an  
2 energy greater than 1.6 eV.

1 32. (Original) The method as recited in claim 28 wherein the radiation has  
2 energy ranging from about 1.6 eV to 10 eV.

1 33. (Original) The method as recited in claim 28 wherein the step of creating a  
2 plurality of charges further comprises subjecting the construct to radiation selected from  
3 the group consisting of white light, ultra violet light, X-rays or gamma rays, alpha rays,  
4 gamma rays, and combinations thereof.

1 34. (Original) The method as recited in claim 28 wherein the biological mate  
2 rial is nucleic acid and the construct changes the nucleic acid by cleaving it.

1 35. (Original) The method as recited in claim 34 wherein the cleavage occurs  
2 when the semiconductor accumulates electrons from the first biological moiety.

1 36. (Original) The method as recited in claim 28 wherein the semiconductor is  
2 a metal oxide selected from the group consisting of  $\text{TiO}_2$ ,  $\text{ZrO}_2$ ,  $\text{VO}_2$ ,  $\text{MnO}_2$ ,  $\text{NiO}$ ,  $\text{ZnO}$ ,  
3  $\text{CuO}$ ,  $\text{FeO}_4$  and combinations thereof.

1 37. (Original) The method as recited in 1 wherein the biological molecule is  
2 nucleic acid having base sequences interspersed with guanine.

1 38. (Original) The method as recited in claim 30 wherein the source of radia-  
2 tion is a radioactive isotope selected from the group consisting of phosphorus-32,

3 iodine- 123, iodine-131, sulfur-35, selenium-75, technetium-99, yttrium-90 and combi-  
4 nations thereof.

1 39. (Original) The method as recited in claim 37 wherein the radioactive  
2 isotope is covalently attached to the semi-conductor.